

Notice of Allowability

Application No.

09/848,932

Examiner

Lourdes Cruz

Applicant(s)

HOFFMAN ET AL.

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to An examiner initiated interview on 9-05-2003.
2. ☒ The allowed claim(s) is/are 11-31.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☒ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☒ including changes required by the proposed drawing correction filed 01-13-2003, which has been approved by the Examiner.
 - (c) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. <u>33</u> . |
| 5 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. <u>30</u> . | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Parson on 09-05-2003. Find substance of the interview in the Interview Summary (PTOL-413B) attached herein.

The application has been amended as follows:

In the claims

Please amend the claims as indicated.

11. (Currently Amended) A semiconductor chip package comprising:

a substrate;

a metallization layer formed on one side of the substrate, wherein the metallization layer comprises a plurality of bond fingers;

a semiconductor die mounted on the substrate, the semiconductor die being electrically connected to ~~a portion of the metallization layer~~ at least some of the bond fingers;

Art Unit: 2827

a shield element mounted on the substrate, ~~the shield element being electrically connected to a portion of the metallization layer~~ wherein the shield element is electrically attached to at least one of the bond fingers; and

a package mold surrounding the semiconductor die and the shield element.

12. (Currently Amended) The semiconductor chip package of claim 11, wherein the metallization layer comprises:

a die pad formed on the substrate; and

~~a plurality of bond fingers formed on the substrate;~~

wherein the semiconductor die is attached to the die pad; ~~and~~

~~wherein the shield element is electrically attached to at least one of the bond fingers.~~

18. (Currently Amended) The semiconductor chip package of claim ~~12~~ 11, wherein the shield element comprises a plurality of legs attached to a corresponding plurality of the bond fingers.

19. (Currently Amended) The semiconductor chip package of claim ~~12~~ 11, wherein at least one the legs of the shield element comprises a concave lower surface shaped to receive a corresponding one of the bond fingers.

Art Unit: 2827

20. (Currently Amended) The semiconductor chip package of claim 11, wherein at least one of the legs of the shield element comprises a convex lower surface, and wherein a corresponding one of the bond fingers comprises a concave upper surface shaped to receive the convex lower surface of the leg.

21. (Currently Amended) A shielded semiconductor device package comprising:

a substrate having a metallization pattern formed on one side of the substrate, the metallization pattern having a plurality of solderable surface mount pads;

a semiconductor device electrically attached to the metallization pattern and mechanically attached to the substrate;

a metal screen enclosing the semiconductor device and electrically and mechanically attached to a portion of the metallization pattern to shield the semiconductor device from radio frequency energy, wherein the metallization pattern comprises a plurality of bond fingers formed on the substrate and the metal screen is electrically attached to at least one of the bond fingers; and

an insulating material transfer molded about the semiconductor device and encapsulating the metal screen.

22. (Currently Amended) The shielded semiconductor device package of claim 21, wherein the metallization pattern comprises:

a die pad formed on the substrate; and

~~a plurality of bond fingers formed on the substrate;~~

wherein the semiconductor die is attached to the die pad; ~~and~~

~~wherein the shield element is electrically attached to at least one of the bond fingers.~~

29. (Currently Amended) A semiconductor chip package comprising:

a substrate having first and second sides;

a metallization layer formed the first side of the substrate only, with no metallization layer being formed on the second side of the substrate, wherein the metallization layer comprises a plurality of bond fingers;

a semiconductor die mounted on the substrate, the semiconductor die being electrically connected to a portion of the metallization layer;

a shield element mounted on the substrate, ~~the shield element being electrically connected to a portion of the metallization layer~~ wherein the shield element is electrically attached to at least one of the bond fingers.

30. (Currently Amended) The semiconductor chip package of claim 29, wherein the metallization layer comprises:

a die pad formed on the substrate; and

~~a plurality of bond fingers formed on the substrate;~~

wherein the semiconductor die is attached to the die pad; ~~and~~

Art Unit: 2827

~~wherein the shield element is electrically attached to at least one of the bond fingers.~~

Drawings

The examiner has approved the following changes to the drawings. In order to avoid abandonment of the application, applicant must make these following drawing changes.

All of the cross-hatching patterns should be selected from those shown on page 600-81 of the MPEP based on the material of the part. Also see 35 CFR 184 (h)(3) and MPEP 608.02.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: The Application as amended specifically recites in the independent claims 11, 21 and 29 a semiconductor chip package comprising a substrate, a metallization layer, a die on the substrate, and more specifically, the claims recite a plurality of bond fingers on the substrate wherein the shield element/meal screen is electrically attached to at least one of the bond fingers.

The above is neither obvious over nor anticipated by the prior art of record.

Art Unit: 2827

The prior art made of record and not relied upon is listed in the Notice of References Cited (PTO-892) attached herein, all of which has been cited for disclosing packages enclosing a semiconductor device and a shield screen enclosed in the package.

However, the prior art fails to specifically disclose the limitations indicated as allowable above since the prior art fails to neither alone nor in combination anticipate the application as amended in this Office Action. Hence the Notice of Allowability found herein.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elle Cruz whose telephone number is 703-306-5691. The examiner can normally be reached on M-F 10-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammand Cuneo can be reached on 703-308-1233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

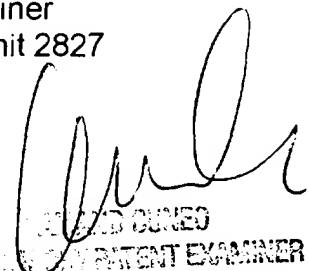
Art Unit: 2827

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Elle Cruz

Lourdes Cruz
Examiner
Art Unit 2827



RECEIVED
CURRENTLY PATENT EXAMINER
TECHNOLOGY CENTER 2800